

NEW! UPGRADE WORKSHOP

Card readers

In the first instalment of our brand new series, **Simon Handby** provides a useful step-by-step guide to installing a neat, internal memory card reader

Memory cards are getting smaller in size, larger in capacity and cheaper every day. Small and robust, they're the ideal way to store digital photos and they're also useful for PDAs, certain MP3 players and digital video cameras. You can normally connect any of these devices to your PC with a Universal Serial Bus (USB) cable, but a memory card reader gives you quick and simple access to files and photos stored on your card.

Most card readers are inexpensive, costing less than £30 including VAT. There are several types available, nearly all of which exchange data with the host PC using some form of USB connection. You should choose one that's suitable for your computer, devices and needs.

An internal reader is the neatest product for a desktop PC as it fits snugly into a spare drive bay. If you don't have room, you could replace your floppy drive with a combined floppy drive and card reader, but you'll also need a free USB header; see our Compatibility Checklist below.

If you have a digital camera, consider buying a photo printer with its own memory card slots, such as HP's Photosmart 8250 that was reviewed in *What's New, Shopper* December 2005. This lets you access the contents of cards from a connected PC, but will also make direct prints of your photos. Easily portable external USB readers are great for

USB HEADER CONNECTOR This cable connects to the USB header on your computer's motherboard. It provides power to the memory card slots, and transfers data to and from memory cards

MEMORY CARD SLOTS Most card readers can read several types of memory card. Some card types are less common than others, though, so check that the reader you buy is compatible with your camera

FLOPPY DISK SLOT Some card readers, like this one, also include a 3½" floppy disk drive. This makes it easy to add a memory card reader by replacing your old floppy disk drive

FLOPPY DISK CONNECTOR This connector links the floppy disk drive to your motherboard. Floppy disk cables are thin and flat, and contain 34 wires. They have a plastic plug on each end

POWER CONNECTOR This standard four-pin connector provides power for the floppy disk drive. It must be attached to a spare cable from your computer's power supply

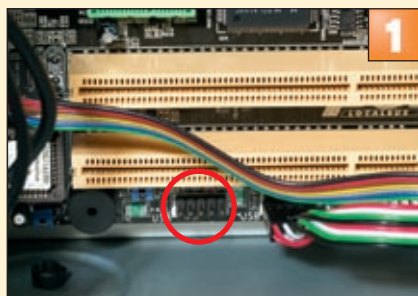
notebooks. We recommend Trust's CR-1200, reviewed in *What's New, Shopper* November 2005.

Make sure the reader supports the card formats you need. Secure Digital is the most common format for compact devices, but many cameras use xD Picture cards, Memory Sticks or CompactFlash cards.

INSTALLATION

Installing an external USB card reader is simple: install any necessary drivers and plug the reader into a free USB port. Adding an internal card reader is a little trickier, but it shouldn't cause you any problems provided you have followed our

COMPATIBILITY CHECKLIST



USB HEADER

To fit an internal card reader, you'll need a free USB header on your motherboard. Open your computer's case and refer to your motherboard manual to find the correct set of pins. If you don't have the manual, download a copy from the manufacturer's website. USB headers have nine pins; card readers need only four. If another device is using one row of pins, you should be able to use the second.

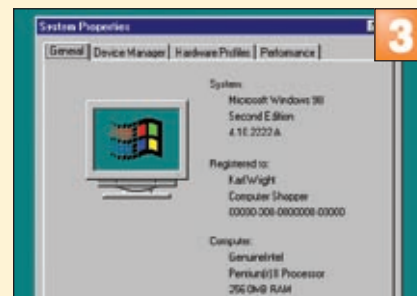
CHECKED ☐



3½" DRIVE BAY

Most internal card readers fit a 3½" drive bay. Sometimes bays that look empty contain a hard drive, so look inside the case to be sure. Also make sure you have any runners, screws or mounts required to fit the drive in your case. To fit a combined floppy drive and card reader, you'll need a floppy disk cable and a spare floppy disk power connector. If you're replacing an old floppy drive, you'll have these already.

CHECKED ☐



WINDOWS VERSIONS

Older versions of Windows may not recognise a card reader; you shouldn't have problems with Windows 98 SE or later. Visit www.usbman.com for details. Right-click My Computer and select Properties to check your version. Various patches improve the USB support in Windows 98 SE, so go to www.windowsupdate.com and ensure you have the relevant fixes. Also check your card reader supports your OS.

CHECKED ☐



Compatibility Checklist. Before starting, check the instructions that come with your product; depending on your operating system you may need to install drivers before you add the reader itself.

Unplug your PC and arrange it on a surface in a place that provides you with enough light to see what you're doing inside the case. Touch an unpainted part of a radiator to discharge static electricity before you start, and repeat this periodically as you work.

1 CLEAR A SPACE Remove the cover from your PC's case, referring to the manual for instructions if needed. If you're removing an existing floppy drive, disconnect its white power connector by pulling it carefully but firmly away from the drive, then remove the data cable in the same way.

Depending on your case type, you free the floppy drive by releasing catches on two runners or by removing screws from each side of the drive bay. Once this is done, pull the floppy drive free of its slot carefully, making sure not to snag any cables.

If you're adding a card reader into a free drive bay, simply remove any blanking plates blocking the bay – they should unclip or snap free.

2 FIT THE CARD READER If necessary, fit any runners or mounting plates to your card reader. Guide the USB header cable through the front opening of the drive bay and slide the drive into position after it. You



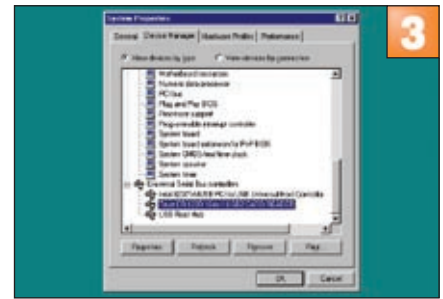
shouldn't need much force. Watch out for pinched cables or other obstructions, and make sure the drive is correctly aligned.

When the card reader's front is flush with the case's fascia, the screw holes on each side should line up with those on the drive bay, or both runners should click into place. If using screws, add two on each side to hold the drive firmly in place.

Next, connect the card reader's USB cable to a free USB header on your motherboard. Be careful not to misalign the connector or bend any of the pins. Your motherboard manual will explain the order of the pins, but if you have any devices already connected to another USB header the colour coding of its wires can be a helpful guide.

If you're installing a combined floppy drive and card reader, fit a floppy drive data cable to the drive's connector. Match the coloured wire to pin one, if this is labelled, and gently push the cable home. Many cables have a small lump on one side to show which way around it must be inserted. Connect the ribbon cable's other end to the motherboard in the same way. Finally, connect a spare floppy-type power plug to the drive.

Try to route all cables so they are clear of any other components, particularly cooling fans. Without closing the case, reconnect your PC and turn it on. If it fails to boot, or if you hear any warning beeps, switch it off again and re-check all your connections.



3 INSTALL DRIVERS AND SOFTWARE Windows 2000 or XP should automatically detect an internal card reader, or one attached to an external USB port. You can verify this by opening My Computer and looking for any new drive icons that have appeared.

You should immediately be able to insert and read a card, but you may still want to install drivers or software provided by the manufacturer. These can be particularly useful for explaining which drive letter relates to which card format if your reader supports many different types.

You need your manufacturer's drivers to use a card reader with Windows 98 SE or Windows Me. If you didn't need to install these before beginning

the physical installation, insert the supplied CD and install them now. After the setup has finished, you will be prompted to reboot your system, after which you should find that extra drive letters have appeared and your reader is working.

You can double-check this by right-clicking My Computer, selecting Properties and selecting the Device Manager tab. In Windows XP, this feature can be found on the Hardware tab. Expand the category 'Universal Serial Bus controllers' found at or near the bottom of the list, and you should find an entry for your new device. If everything is working properly, you can close your PC's case.

TOP TIP

To get your USB header connector the right way round, copy the order of coloured wires found on another USB header

TESTING AND TROUBLESHOOTING

Once your card reader is installed, several new drive icons should appear in My Computer. There will usually be one drive icon for each card slot in your memory card reader.

To test that the reader is working properly, insert a memory card with some files on it. It's easiest to take some photos with a digital



Make sure you fit a power connector if needed

camera, remove its memory card and insert that into the card reader.

One of the drives in My Computer will now represent that memory card. Open it and find the files. Digital camera pictures are usually in a folder called DCIM. Select the photos, copy them and paste them on to your desktop. If you connected the reader to a USB2 port or motherboard header, 32MB of files should copy in around a minute. If you're using the older USB1.1 standard, transfers will take substantially longer.

If there is free space on your memory card, try copying some files on to it. Pick a small file from your hard disk, copy it, open the drive representing your memory card and paste the file. If you can't paste the file, check your memory card is not full. Many memory cards have a write-protect switch. Remove the card, make sure the switch is in the right position and reinsert the card into the reader.

■ If you connected the reader to your motherboard and it doesn't appear in Windows,

check that you connected the USB header cable correctly. Make sure you used the correct header on the motherboard, and that you plugged the cable in the right way round.

■ If your external card reader doesn't appear in Windows, you should verify that the USB port is working correctly. Unplug the card reader and plug in a USB mouse. If the mouse works, you might not have installed the card reader drivers correctly.

■ If the floppy drive in your combined floppy disk drive and card reader doesn't do anything, you should check that you plugged in its power connector properly.

■ If your floppy drive doesn't work but its access light is continually on, you have connected the floppy cable incorrectly. Turn off your PC, remove the floppy disk cable, twist it around by 180° and then reattach it.